



(51) International Patent Classification:

A23F 3/36 (2006.01) A23F 3/20 (2006.01)
A23F 3/30 (2006.01) A23F 3/16 (2006.01)

(21) International Application Number:

PCT/IB2008/003389

(22) International Filing Date:

23 July 2008 (23.07.2008)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/951,394 23 July 2007 (23.07.2007) US
60/951,387 23 July 2007 (23.07.2007) US
10-2007-0092193
11 September 2007 (11.09.2007) KR

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

[Continued on next page]

(54) Title: EPICATECHIN DEFICIENT GREEN TEA

Blood glucose

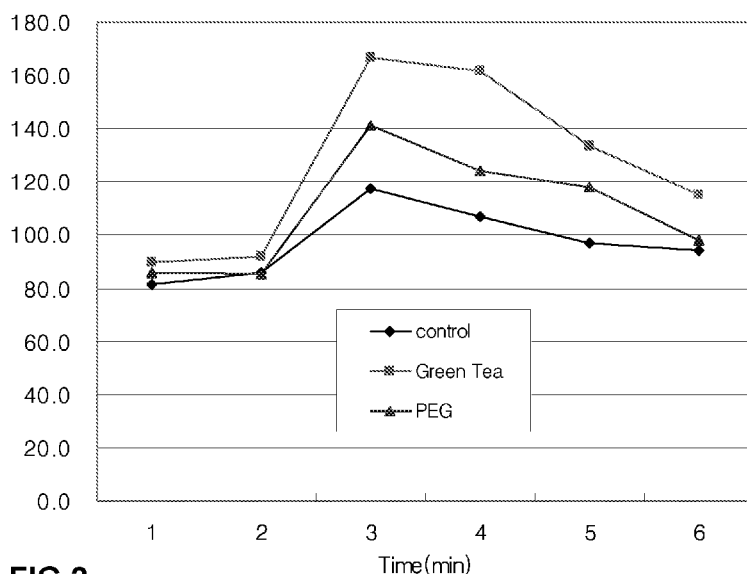


FIG 2

(57) Abstract: The present application describes a method of eliminating gallated catechins, especially epigallocatechin gallate (EGCG), epicatechin gallate (ECG), as well as parathion, from green tea extraction by using at least one out of ethyl acetate, Cetyl Trimethyl Ammonium Bromide (CTAB), cation exchange resin, anion exchange resin, C 18 bead, PEG bead and mPEG. And also, this method can be applied in the method of adding at least one of pre-mentioned components, when green tea is directly ingested in the form of an extract solution, leaf or powder. This is to be useful for people with metabolic disorders such as diabetes and obesity because of the resolved toxicity. This method is to maximize the beneficial luminal effect and to minimize the harmful circulatory effect of gallated catechins.



(88) Date of publication of the international search report:
15 October 2009

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2008/003389**A. CLASSIFICATION OF SUBJECT MATTER****A23F 3/36(2006.01)i, A23F 3/30(2006.01)i, A23F 3/20(2006.01)i, A23F 3/16(2006.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC C07D 311/62, A23L 1/30, A61K 31/353, A61P 3/04, A09K 15/08

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Utility Models and Applications for Utility Models since 1975

Japanese Utility Models and Applications for Utility Models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS, WPI, USPTO, PAJ, NCBI, INSPECT "plant, tea, green tea, epigallocatechin, parathion, EGCG, ECG, PEG, mPEG, CTAB, cation exchange resin, ethylacetate, et al.,"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 1754702 A1 (Nakai, M., and Sakura, M.S. JP) 21 Feb 2007 "Epigallocatechin dimers or trimers having lipase inhibitor activity and/or antioxidative activity" - see the whole document	7-20
A	US 2006/0153907 A1 (Zalipsky, S., et al., US) 13 Jul 2006 "Liposome formulations of boronic acid compounds" - see the whole document	7-20
A	US 6538023 B1 (Ohnishi, T., US) 25 Mar 2003 "Therapeutic uses of green tea polyphenols for sickle cell disease" - see the whole document	7-20
A	WO 00/06171 A1 (Knox, V.D., US) 10 Feb 2000 "Antioxidant composition and method of treating diseases using same" - see the whole document	7-20

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

21 AUGUST 2009 (21.08.2009)

Date of mailing of the international search report

21 AUGUST 2009 (21.08.2009)

Name and mailing address of the ISA/KR

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB2008/003389

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 1-6
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

Claims 1-6 are directed at or refer to an edible plant extract free of epicatechin or parathion without limiting the plant extract and are considered too broad and so inadequately supported by the description that no meaningful search could be made
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/IB2008/003389

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1754702 A1	21.02.2007	JP 2005-336117 A KR 10-2007-0023758 A US 2008-0275258 A1 WO 2005-116005 A1	08.12.2005 28.02.2007 06.11.2008 08.12.2005
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US 6538023 B1	25.03.2003.	none	
WO 2000-006171 A1	10.02.2000	AU 1999-52507 A1 CA 2339004 C CA 2339004 A1 EP 1100507 A4 EP 1100507 A1 EP 1100507 B1 JP 2002-521451 A US 2002-0045580 A1 US 2004-0176306 A1	02.08.1999 01.04.2008 10.02.2000 31.07.2002 23.05.2001 24.01.2007 16.07.2002 18.04.2002 09.09.2004